VPFlowScope 35 bar

User manual

VPFlowScope 35 bar

Creation date: 23-02-2018 in Delft

Publisher

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The Netherlands

Table of Contents

1 Warning - Read this first

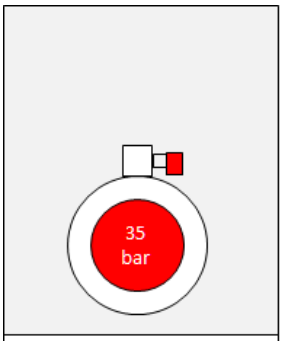
	**Compressed air can be dangerous**! Please familiarize yourself with the forces under pressurized conditions. Respect the local guidelines and regulations for working with pressurized equipment. The pressure on the probe at 35 bar / 500 psi is around 40 Kilogram / 88 pounds force
	**! WARNING Mounting of this unit should be in De-Pressurized lines only !**
	**Mount two safety chains,** one to keep the probe in place, one for safety. Make sure the hooks are completely closed. Make sure that the chains are strained as these chains will keep the probe in position.
	**Use both safety eyes**, to keep the force on the probe equal. Securing the probe on one side will cause the probe to bend.
	Use compression fittings with stainless steel ferrules. Please note that stainless steel will permanently indent the probe and it cannot be used for any other installation anymore.
	Pressurize the system gently, 250 mbar per second. Fast pressurization may result in shifting of the probe due to the pressure shock.
	**INSPECT** the system after 30 minutes to see if the probe is still at the same height. Systems with VIBRATIONS may be causing shifting of the probe.

Order numbers:

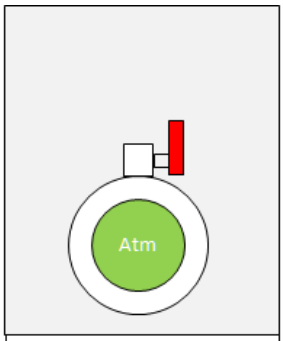
High pressure option for VPFlowScope probe	VPA.0001.092
Compression fitting with stainless steel ferrule	VPA.0001.003

2 Installation step by step

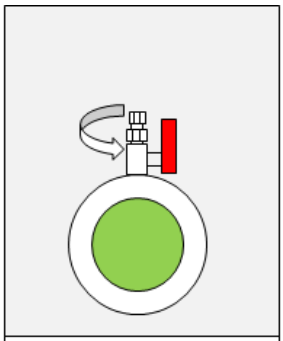
The following cartoons show how to install the probe in a 35 bar system. in addition to the compression fitting with stainless steel ferrules (rated well over 35 bar) we recommend to use two safety chains, for redundancy.



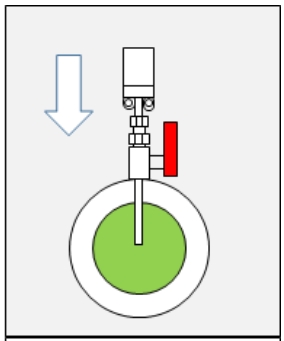
1. Prerequisite:
35 bar pipe network with full bore isolation valve (>13 mm inner diameter)



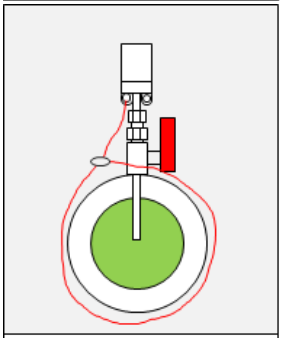
1. Depressurize the pipe section and lock out the entire section for safety.



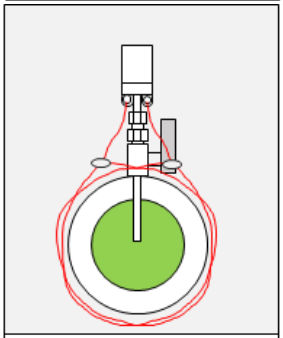
2. Open the valve & mount the compression fitting with stainless steel ferrules. **DO NOT USE TEFLON FERRULES AS THEY WILL SLIP.**



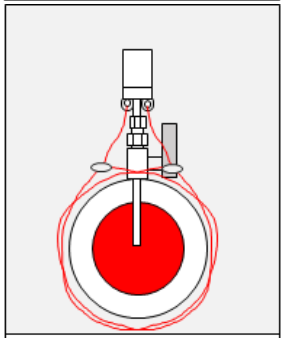
3. Insert the probe, align the probe, and fix the compression fitting according to the manufacturer's user manual and safety instructions



4. Mount the first safety line



5. Mount the second safety ine



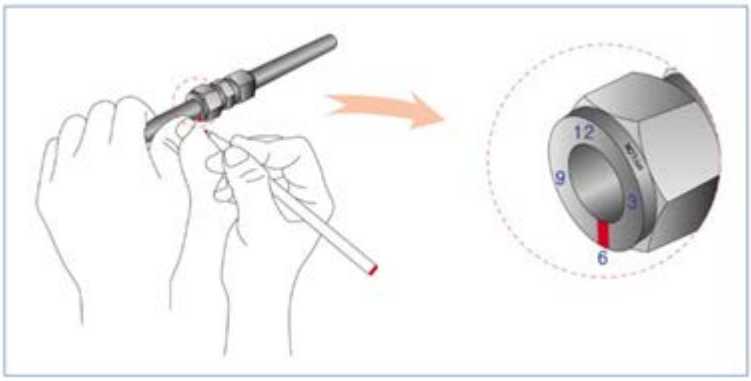
6. Pressurize the pipe section

6. Read user manual for further instructions

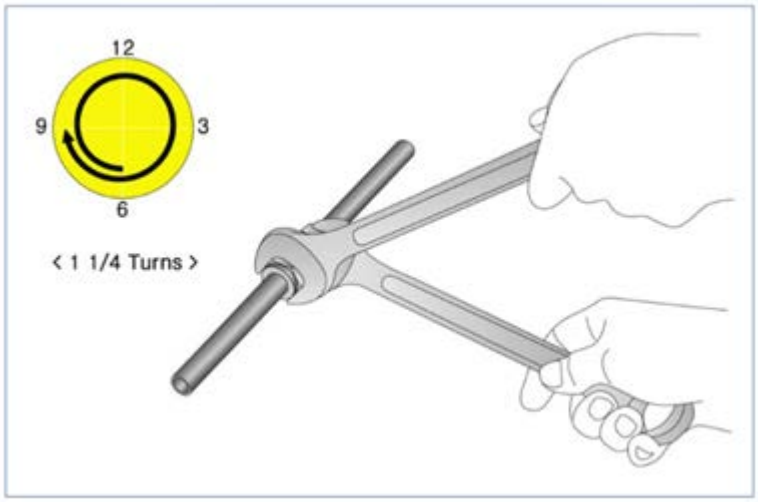
Compression fitting instructions

NOTE: the following instructions apply to stainless steel ferrules only. For use with teflon ferrules, there are no specific guidelines. This is why we do NOT recommend to use teflon ferrules in high pressure systems.

Step 1:
Before tightening the nut, mark the 6 'o clock position



Step 2:
When fixing, use a wrench. Tighten the nut 1 ¼ turns. The mark on the nut turns 1-1/4 and will end at the 9 o'clock position. **Make sure the probe stays aligned during the process.**
If not, gently loosen the nut, align the probe and tighten it again. Rough turning of the probe can cause scratches in the stainless steel and this might result in leakage.



3 Specifications

Please always check the label of your product for the specifications.
Specifications are subject to change as we are continuously improving our products. Please contact us to obtain the latest specification sheet.

Flow sensor
(minimum detection level and max flow rate shown)

Flow range	0.5...150 m_n/sec	1.7…492 sfps
Accuracy	2% of reading under calibration condition Recommended pipe diameter: 40mm | 1.5 inch and up	
Reference conditions	0°C, 1013.25 mbar - DIN1343	32°F, 14.65 psi
Gas temperature	0...60°C	32...140°F
Gases	Compressed air, non aggressive gases and non combustible gases, 95% non condensing gases	

Pressure sensor

Range	0...35 bar gauge	0…500 psi gauge
Accuracy	+/- 1.5% FSS (0...60°C)	+/- 1.5% FSS (32...140°F)

Temperature sensor

Range	0...60°C	32...140°F
Accuracy	+/- 1° (from 10 m_n/sec and up) (At zero flow conditions, temperature reading increases due to self-heating by the flow sensor)	

Display

Technology	Liquid crystal
Back light	Blue with auto power save
Memory	2.000.000 point memory

Mechanical

Probe length	400 mm	15 inch
Probe diameter	12.7 mm	0.5 inch
Process connection	Compression fittings, 0.5 inch, NPT thread	
Pressure rating	See product label. Only rated for high pressure when fixed with stainless steel ferrules.	
IP grade	IP52 when mated to display module IP63 when mated to connector cap	
Wetted materials	Alu, SS316, epoxy	
Ambient temperature	0...60°C	32...140°F
Ambient humidity	10 - 95%. Avoid condensation at all times	

Inputs and outputs

Analog	4..20mA or pulse, selectable via installation software
Serial IO	Modbus RTU
Supply	12..24 VDC +-10% CLASS 2 (UL)
Power consumption	150mA at 24VDC

EASY INSIGHT INTO ENERGY FLOWS

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AN-VP-SP35-UK-1800
Date: 23-02-2018

INSTRUMENTS